

## WORKPLAN (FISCAL YEAR 2006) FOR INVENTORIES AND VITAL SIGNS MONITORING

### SOUTHERN PLAINS INVENTORY AND MONITORING NETWORK

Includes: Alibates Flint Quarries National Monument, Bent's Old Fort National Historic Site, Capulin Volcano National Monument, Chickasaw National Recreation Area, Fort Union National Monument, Fort Larned National Historic Site, Lake Meredith National Recreation Area, Lyndon B. Johnson National Historical Park, Pecos National Historical Park, Sand Creek Massacre National Historic Site, and Washita Battlefield National Historic Site.


#### *Southern Plains Network Approval Signatures*



Karren C. Brown, Chair, Board of Directors  
Superintendent, Lake Meredith National Recreation Area / Alibates Flint  
Quarries National Monument

1-17-06

Date



Bruce Bingham, Regional Inventory and Monitoring Coordinator

2/3/2006

Date



Dustin Perkins, Southern Plains Network Coordinator

1/31/06

Date

## I. Overview and Objectives

The Southern Plains Inventory and Monitoring Network (SOPN) includes eleven national parks with significant natural resources located in Colorado, Kansas, New Mexico, Oklahoma, and Texas. Ten of these parks have been in the network since its inception. An eleventh park, Sand Creek Massacre NHS (SAND), (for complete list of park abbreviations see Table 1) is a recent addition to the National Park Service (NPS) and SOPN. SOPN has not yet been allocated inventory or vital signs monitoring funds for SAND. However, SOPN has decided to include SAND in all vital signs planning efforts.

Table 1. List of abbreviations and affiliations for the 11 SOPN parks.

Park Name	State	Region	Abbreviation
Alibates Flint Quarries National Monument	Texas	Intermountain	ALFL
Bent's Old Fort National Historic Site	Colorado	Intermountain	BEOL
Capulin Volcano National Monument	New Mexico	Intermountain	CAVO
Chickasaw National Recreation Area	Oklahoma	Intermountain	CHIC
Fort Larned National Historic Site	Kansas	Midwest	FOLS
Fort Union National Monument	New Mexico	Intermountain	FOUN
Lake Meredith National Recreation Area	Texas	Intermountain	LAMR
Lyndon B. Johnson National Historical Park	Texas	Intermountain	LYJO
Pecos National Historical Park	New Mexico	Intermountain	PECO
Sand Creek Massacre National Historic Site	Colorado	Intermountain	SAND
Washita Battlefield National Historic Site	Oklahoma	Intermountain	WABA

In FY 2006, SOPN hopes to receive full funding for vital signs and water quality, as well as additional funding for vegetation mapping. The major task for FY2006 will be the prioritization and selection of the vital signs that will make up our long-term monitoring program. The details will be outlined in the Phase II Report which is due October 1, 2006. SOPN hopes to initiate some aspects of protocol development in FY2006 after vital signs are selected. SOPN will certify plants for the remaining three parks early in FY 2006 and will certify new inventory reports as they are completed. SOPN will also continue three biological inventories (vascular plants at SAND, birds at SAND, birds at WABA) that were initiated in FY 2005, initiate one new inventory (rare vertebrates at SAND) and begin planning for a new inventory in FY2007 (rare species inventory of newly acquired lands at PECO). All of these inventories are funded at least in part by non-I+M funds. SOPN will continue to seek alternate funding sources to fill holes in our inventories and assist with protocol development.

### SOPN Objectives for Biological Inventories:

1. Locate and catalog existing park natural resource documents, data sets, and spatial information and ensure that information is readily available.

2. Continue conducting inventories to reach the Servicewide goal of documentation for 90% of the vertebrate animal and vascular plant species within the network parks.
3. Continue to evaluate status and identify data gaps within the core set of natural resource inventories for network parks, and conduct investigations of these gaps and species of special concern to network parks.

#### **SOPN Objectives for Vital Signs Monitoring:**

1. Hire and retain professional staff and secure office space and facilities that provide a safe, healthy, and productive environment.
2. Develop and maintain working and decision-making processes that engages technical staff and managers of network parks.
3. Implement and maintain an integrated GIS and data management program.
4. Summarize and analyze existing information and concepts important for assessing current and future monitoring efforts and needs in the network parks.
5. Identify and prioritize all aquatic indicators (including climatic and atmospheric), including the water quality component of the monitoring plan, and develop protocols and implement programs to monitor the Vital Signs.
6. Identify and prioritize all terrestrial indicators (including climatic and atmospheric indicators), and develop protocols implement programs to monitor Vital Signs.
7. Develop and maintain strategies to share information with network parks, scientists, and others interested in the network's I&M program.

## **II. Scheduled Activities (Fiscal Year 2006)**

**A. Biological Inventories – SOPN park inventories are listed in two different sections of this report. Inventories pertaining to the original 10 SOPN parks are outlined in Objective #2. SAND became a member of the network after SOPN was created, however SOPN has received no inventory funding for this park. Inventory activities for this park are listed under Task A3.3.**

**Objective 1 Locate and catalog existing park natural resource documents, data sets, and spatial information and ensure that information is readily available.**

#### *Task A1.1- NPSpecies Data Entry*

- Scheduled FY 2006 Activities and Products: Complete data entry for new inventory projects (SAND Plants, SAND Birds, BEOL Wetlands, LYJO Plants, LYJO deep water fish, WABA Birds).

#### *Task A1.2 – NPSpecies Certification*

- Scheduled FY 2006 Activities and Products: Finish data certification for plants at FOLS, FOUN, and CAVO. Arrangements were made with botanists to certify these

three parks in FY2005, but the work could not take place until FY06. Certify data from new inventories as reports are completed.

**Objective 2 Continue conducting inventories to reach the Servicewide goal of documentation for 90% of the vertebrate animal and vascular plant species within the network parks.**

*Task A2.1- Vascular Plant Inventory*

Parks involved: None.

- Scheduled FY 2006 Activities and Products: No projects planned.

*Task A2.2- Mammal Inventory*

Parks involved: None.

- Scheduled FY 2006 Activities and Products: No projects planned.

*Task A2.3- Bird Inventory*

Parks involved: WABA.

- Scheduled FY 2006 Activities and Products: Obtain final report from cooperator at WABA. The WABA report is a park-funded project, but SOPN is assisting with the completion. The WABA project is now more than 18 months overdue. SOPN will continue to ask for progress updates on this project until a final report has been received.

*Task A2.4- Herptile Inventory*

Parks involved: None.

- Scheduled FY 2006 Activities and Products: No projects planned.

*Task A2.5- Fish Inventory*

Parks involved: None.

- Scheduled FY 2006 Activities and Products: No projects planned.

**Objective 3 Continue to evaluate status and identify data gaps within the core set of natural resource inventories for network parks, and conduct investigations of these gaps and species of special concern to network parks.**

*Task A3.1- Collate inventory information from SOPN parks*

- Scheduled FY 2006 Activities and Products: Re-evaluate SOPN inventory needs list for the original 10 parks and for SAND based on data from completed inventories.

*Task A3.2- Fill Inventory Gaps*

- Scheduled FY 2006 Activities and Products: Complete wetland inventory of plants and fish at BEOL with Bureau of Reclamation. According to park staff, this wetland is a high priority natural resource, yet it did not receive enough attention during the initial inventory. Develop a proposal for bat inventories at NM and CO parks for the Desert Southwest CESU call. Develop a proposal to inventory rare species at two

new land units at PECO for NRPP Intermountain Region Call. Keep aware of opportunities and continue to pursue ways to complete holes in SOPN inventories through partnerships and funding possibilities.

*Task A3.3- Search and plan for SAND inventory funding*

- Scheduled FY 2006 Activities and Products: This new park has essentially no natural resource information. SOPN decided to only pursue inventories at SAND that were deemed essential in developing a vital signs monitoring program and wait to complete non-essential inventories if and when SOPN is allocated additional inventory funding for this park. SOPN will try to minimize the use of vital signs money for SAND inventories by seeking alternate sources of funding. SOPN determined that the essential inventories were vascular plants, birds, and rare mammals. Field work for a bird inventory was completed by Rocky Mountain Bird Observatory in FY 2005 and the final report will be completed in FY 2006. SOPN submitted a successful proposal for \$10,000 from Rocky Mountain Cooperative Ecosystems Studies Unit that was matched by \$19,000 from SOPN to fund a 2-year vascular plant inventory at SAND with Colorado State University. This project began in FY 2005. Depending on the results from the first field season, a second shortened field season in FY 2006 for any missed species may be conducted. The final report for this project is due in FY 2007. In FY 2005, SOPN also submitted a successful proposal for \$36,400 from NRPP Small Parks for a rare species inventory at SAND. This two-year project will be initiated in FY 2006 with either the Colorado Natural Heritage Program or the Bureau of Reclamation. Continue consulting with Colorado Division of Wildlife and other agencies and non-profits for partnership opportunities for vertebrate inventories.

*Task A3.4 – Vegetation Mapping Inventories*

Parks Involved: ALFL, BEOL, CAVO, CHIC, FOLS, FOUN, LAMR, LYJO, PECO, SAND and WABA

- Scheduled FY 2006 Activities and Products: SOPN has decided that vegetation maps are a high priority and approximately \$40,000 will be allocated towards mapping in FY 2006. The work described below with San Antonio Missions NHP (SAAN) of the Gulf Coast I+M Network was overseen by SOPN at the request of the vegetation mapping program due to the close proximity of the two parks and the use of the same cooperator. *The first section outlines work that was funded in FY 2005 and is scheduled to take place in FY2006.* Complete data entry, and vegetation classification analysis at LYJO, SAAN, WABA (Nature Serve), FOLS (Kansas Natural Heritage Inventory), CAVO, and FOUN (New Mexico Natural Heritage). Complete data entry, vegetation classification and mapping at BEOL and SAND (Colorado Natural Heritage Program). *The following section outlines work SOPN hopes to initiate in FY2006, but is partially dependent on additional funding from the vegetation mapping program.* Establish additional task agreement with Natural Heritage New Mexico for the completion of plot data collection, classification and mapping at PECO. Establish cooperative agreement with Botanical Research Institute of Texas for plot data collection at CHIC, accuracy assessments at LYJO, WABA, and SAAN, and writing the classification key at LYJO, WABA, and SAAN. Establish additional task agreement with Kansas Natural Heritage Inventory for accuracy assessments at

FOLS. Complete accuracy assessments at BEOL and SAND through the use of park staff and Colorado College, respectively. Vegetation mapping at LAMR and ALFL should be completed in FY2006, although SOPN staff are not integrally involved in this project.

## **B. Vital Signs Monitoring**

### **Objective 1 Hire and retain professional staff and secure office space and facilities that provide a safe, healthy, and productive environment.**

#### *Task B1.1- Establish network positions and office(s)*

- Scheduled FY 2006 Activities and Products: Continue a cooperative agreement to fund a Ph.D. student at Texas A+M University (Dr. Roel Lopez and Dr. Bill Grant) that will be working on landscape level issues for the network. Fund the second year of a Master's student at Texas A+M University (Dr. John Crompton) to work on invasive plant issues and protocol development. Initiate a second cooperative agreement for a Ph.D. student at Colorado State University to work on grassland vegetation and prairie restoration issues (Dr. Alan Knapp and Dr. Tim Seastedt). Continue partnership that was established with the Gulf Coast CESU and Texas A+M University in FY 2005 for student interns to assist with library research and summary report writing.

#### *Task B1.2- Ensure staff receive proper training and are updated with the most recent biological information.*

- Scheduled FY 2006 Activities and Products: Attend relevant training and meeting opportunities. Network coordinator will attend Supervisor training. Network staff will attend the National Inventory and Monitoring Meeting.

### **Objective 2 Develop and maintain working and decision-making processes that engages technical staff and managers of network parks.**

#### *Task B2.1- Coordinate network activities*

- Scheduled FY 2006 Activities and Products: Hold FY 2006 SOPN annual meeting likely in Summer, 2006. Elect a new chair of the board. Continue to hold necessary conference calls with technical committee and board for relevant SOPN decisions. Continually update webpage.

### **Objective 3 Implement and maintain an integrated GIS and data management program.**

#### *Task B3.1- Ensure efficient and central location for data entry and certification*

- Scheduled FY 2006 Activities and Products: Complete NPSpecies certification for new inventory projects. Develop plan for future NPSpecies data entry and revisiting certification. Maintain and update NatureBib and Procite library databases with relevant literature and reports. Convert resource and stressor ranking database for use at vital signs prioritization and selection workshops. This database will include

justification statements, preliminary monitoring objectives, and ranking criteria. Develop project tracking database. Develop photo management strategy. Begin development of vital signs data management plan.

*Task B3.2- Gather data, build, and update an integrated GIS program*

- Scheduled FY 2006 Activities and Products: Review and identify gaps in existing GIS datasets. Begin filling needs that were prioritized in FY 2005. Needs may be filled by using existing complete data (either from parks or through clearinghouses), further processing of existing incomplete datasets, or purchasing new spatial data.

**Objective 4 Summarize and analyze existing information and concepts important for assessing current and future monitoring efforts and needs in the network parks.**

*Task B4.1- Summarize and analyze existing information.*

- Scheduled FY 2006 Activities and Products: Incorporate WASO comments on Chapter 1 of the Phase I report into the Phase II report. Begin to examine existing protocols and monitoring programs that are pertinent to the SOPN vital signs to be selected in FY 2006.

**Objective 5 Identify and prioritize all aquatic indicators (including climatic and atmospheric indicators), including the water quality component of the monitoring plan, and develop protocols and implement programs to monitor the Vital Signs.**

*Task B5.1- Development and Identification of Vital Signs*

- Scheduled FY 2006 Activities and Products: Hold a prioritization workshop where each potential vital sign (approximately 80 vital signs are on the current list) is ranked according to three pre-set criteria. The criteria will be management significance, ecological significance, and cost effectiveness and feasibility. Management significance will be ranked by park staff, while the other two criteria will be ranked at our prioritization workshop by subject-matter experts and park staff. This workshop will have park staff and outside experts assigned to the following four break out groups: plants and soils; wildlife; aquatic resources; and landscape, air quality and other issues. The product will be a prioritized list of vital signs. The SOPN technical committee will then select the vital signs at a selection workshop. During the selection workshop, the prioritized list will be fine-tuned in order to produce the final list of vital signs that will make up the SOPN monitoring program. Prior to the workshops, the SOPN network coordinator, with assistance from the Intermountain Regional I+M Manager will conduct a review of the potential vital signs to determine how closely they meet I+M program goals. This review will be considered during the selection workshop. The selected vital signs will then be presented to the Board for approval.

*Task B5.2- Develop Conceptual Models*

- Scheduled FY 2006 Activities and Products: Continue to refine conceptual models based on vital signs development and review of the Phase I report.

*Task B5.3- Develop Water Quality Program*

- Scheduled FY 2006 Activities and Products: Select water quality parameters to monitor at prioritization and selection workshops presented in Task B5.1. Continue to hold informal meetings with park staff that are actively involved in maintaining resource water quality within network parks.

*Task B5.4- Planning towards Completion of Monitoring Plan*

- Scheduled FY 2006 Activities and Products: Select vital signs and complete Phase II Vital Signs Monitoring Report. Begin work on protocol development after selection of vital signs is complete (Task B5.1). This work could include reviewing monitoring protocols and programs that are relevant to SOPN selected vital signs, identifying cooperators to develop vital signs, and preparing for pilot field studies if necessary.

*Task B5.5 – Protocol Development*

- Scheduled FY 2006 Activities and Products: After vital signs selection, begin review of existing protocols to determine if they can be modified to fit SOPN needs, or if new protocols need to be developed. Determine if water quality protocols can be developed in-house or if we will need to establish an agreement for their development. Begin to establish relationships with entities to assist with protocol development of other aquatic vital signs.

**Objective 6 Identify and prioritize all terrestrial indicators (including climatic and atmospheric indicators), and develop protocols and implement programs to monitor Vital Signs.**

*Task B6.1- Development and Identification of Vital Signs*

- Scheduled FY 2006 Activities and Products: Hold a prioritization workshop where each potential vital sign (approximately 80 vital signs are on the current list) is ranked according to three pre-set criteria. The criteria will be management significance, ecological significance, and cost effectiveness and feasibility. Management significance will be ranked by park staff, while the other two criteria will be ranked at our prioritization workshop by subject-matter experts and park staff. This workshop will have park staff and outside experts assigned to the following four break out groups: plants and soils; wildlife; aquatic resources; and landscape, air quality and other issues. The product will be a prioritized list of vital signs. The SOPN technical committee will then select the vital signs at a selection workshop. During the selection workshop, the prioritized list will be fine-tuned in order to produce the final list of vital signs that will make up the SOPN monitoring program. Prior to the workshops, the SOPN network coordinator, with assistance from the Intermountain Regional I+M Manager will conduct a review of the potential vital signs to determine how closely they meet I+M program goals. This review will be considered during the selection workshop. The selected vital signs will then be presented to the Board for approval.



*Task B6.2- Develop Conceptual Models*

- Scheduled FY 2006 Activities and Products: Continue to refine conceptual models based on vital signs development and review of the Phase I report.

*Task B6.3- Planning for Completion of Monitoring Plan*

- Scheduled FY 2006 Activities and Products: Select vital signs and complete Phase II Vital Signs Monitoring Report. Begin work on protocol development after selection of vital signs is complete (Task B6.1). This work could include reviewing monitoring protocols and programs that are relevant to SOPN selected vital signs, identifying cooperators to develop vital signs, and preparing for pilot field studies if necessary.

*Task B6.4 – Protocol Development*

- Scheduled FY 2006 Activities and Products: After vital signs selection, begin review of existing protocols to determine if they can be modified to fit SOPN needs, or if new protocols need to be developed. Protocol development for three potential vital signs (landscape change, invasive plants, and grassland vegetation) has begun by establishing cooperative agreements with Cooperative Ecosystem Studies Universities (Texas A+M and Colorado State). These vital signs have been consistently rated as high priority by both park managers and subject matter experts at our ecosystem workshops in 2005. Begin to establish relationships with entities to assist with protocol development.

**Objective 7    Develop and maintain strategies to share information with network parks, scientists, and others interested in the network's I&M program.**

*Task B7.1- Develop and maintain relationships with parks, other I&M networks, and research entities.*

- Scheduled FY 2006 Activities and Products: Attend national and regional I+M meetings. Chair session at national meeting for network coordinators. Attend and present a poster or paper at the Society of Conservation Biology meeting. Submit multi-park proposal for prairie restoration at 5 SOPN parks for \$249,000 to NRPP Disturbed Lands fund source. Continue to promote SOPN and look for partnerships to increase our funding, effectiveness, and scientific understanding.

*Task B7.2- Subject Expert Identification*

- Scheduled FY 2006 Activities and Products: Invite subject matter experts to prioritization workshop. Identify potential experts to assist with vital signs protocol development. Continue identifying and communicating with subject matter experts in a wide variety of roles.

### III. Staffing

#### Inventory and Monitoring Staff

Bruce Bingham, Intermountain Regional Coordinator	(303) 987-6706
Dusty Perkins, Ph.D., Southern Plains Network Coordinator	(830) 868-7128 x 281
Heidi Sosinski, Southern Plains Network Data Manager	(830) 868-7128 x 282
Tulia DeFex, Texas A+M, Ph.D. Student	(979) 845-5702
Tomyeanne Zettner, Texas A+M, M.S. Student	(512) 925-2406

#### Board of Directors

Karren Brown, Chair of Board, (Supt. LAMR/ALFL)	(806) 857-3151
Christopher Moos, Ph.D., Member, (Supt., CAVO)	(505) 278-2201 x210
Kevin McMurry, Member (Supt. FOLS)	(620) 285-6911
Alden Miller, Member, (Chief of Resources + Facilities, WABA)	(580) 497-2742 x3
Bruce Bingham, Member, (IMR I&M Coordinator)	(303) 987-6706
Dusty Perkins, Ph.D., Member, (Network Coordinator)	(830) 868-7128 x281
Gary Willson, Ph.D., ad-hoc Member, (GP-CESU)	(402) 472-5047
Gillian Bowser, Ph.D., ad-hoc Member, (GC-CESU)	(979) 845-9787

#### Technical Committee

Alden Miller, Chair, (Chief Resources + Facilities, WABA)	(580) 497-2742 x3
Paul Eubank, (Chief of Resource Management, LAMR/ALFL)	(806) 857-0309
Vacant, (Supervisory Park Ranger, FOUN)	(505) 425-8025 x28
Steve Burrough, (Chief Resource Management, CHIC)	(580) 622-3161 x601
Jason Lott, (Integrated Resources Program Manager, LYJO)	(830) 868-7128 x236
Fran Pannebaker, (Chief of Natural Resources, BEOL)	(719) 383-5010 x16
Brian Quigley, (Chief Park Ranger, CAVO)	(505) 278-2201 x230
Felix Revello, (Supervisory Park Ranger, FOLS)	(620) 285-6911
Alexa Roberts, Ph. D. (Superintendent, SAND)	(719) 438-5916
Ted Benson, (Park Ranger, PECO)	(505) 757-2611 x234
Dusty Perkins, (Network Coordinator)	(830) 868-7128 x281

#### Contractors/Cooperators

Dr. Gillian Bowser, Gulf Coast CESU – Texas A+M Undergraduate Interns  
Yvonne Chauvin, Natural Heritage New Mexico – FOUN and CAVO plant certification  
Dan Cogan, Bureau of Reclamation – Vegetation Mapping  
Dr. John Crompton, Texas A+M University – M.S. Student (Invasive plants)  
Jim Drake, Nature Serve – Vegetation Mapping  
Dr. Bill Grant, Texas A+M University – Ph.D. Student (Landscape issues)  
David Hanni, Rocky Mountain Bird Observatory – SAND bird inventory  
Dr. Tas Kelso, Colorado College – SAND vegetation mapping  
Dr. Kelly Kindscher, Kansas Natural Heritage Inventory – Vegetation mapping, FOLS  
plant certification  
Dr. Allan Knapp, Colorado State University – Ph.D. Student (Grasslands)  
Dr. Roel Lopez, Texas A+M University – Ph.D. student (Landscape issues)  
Pat Mangan, Bureau of Reclamation – BEOL wetland inventory

Dr. Esteban Muldavin, Natural Heritage New Mexico – FOUN, CAVO, PECO  
vegetation mapping  
Dr. Roy Roath, Colorado State University – SAND vegetation inventory  
Dr. Joe Stevens, Natural Heritage New Mexico – BEOL and SAND vegetation mapping  
Rinda Tisdale-Hein, Bureau of Reclamation – BEOL wetland inventory  
Dr. Roger Sanders, Botanical Research Institute of Texas – LYJO, WABA, SAAN,  
CHIC vegetation mapping  
Dr. Tim Seastedt, University of Colorado – Ph. D. Student (Grasslands)  
Dr. Greg Smith, Emporia State University – WABA bird inventories  
Rickie White, Nature Serve – Vegetation Mapping

## **V. Budget Narrative**

In FY 2006 SOPN anticipates receiving its full funding amount of \$389,700 for vital signs. This money will be used to continue funding two Ph.D. students, one at Texas A+M University and one likely at the Colorado State University, as well as a Master's student at Texas A+M University. SOPN plans to continue an agreement for Texas A+M to provide interns for assistance with library research and summary report writing. SOPN will fund a prioritization and selection meeting in this fiscal year. After this meeting SOPN plans to allocate money towards protocol development for vital signs. This will allow SOPN to forward fund protocol development needed to complete the Phase III report. In FY 2004, SOPN had planned to put \$40,000 towards vegetation mapping inventories but was not able to do so when the budget was cut. SOPN plans to put this money towards vegetation mapping in FY 2006. Travel from the vital signs budget will include an IMR I+M communications workshop, the I+M annual meeting, and training for the data manager and network coordinator. Vital signs will fund the two permanent SOPN positions (network coordinator and data manager). Vital signs will also pay for administrative arrangements (2.8% of vital signs budget, 2.6% of total SOPN funding) with the host park, LYJO, office supplies, and miscellaneous expenses.

SOPN plans on receiving \$29,000 in water quality money in FY 2006. This money will fund water quality protocol development and the SOPN annual Board of Directors and Technical Committee Meeting.

SOPN will also receive \$20,000 in money from the IMR NRPP Small Park funding source for a rare vertebrate species inventory at SAND. This money will be allocated and the project initiated in FY 2006. SOPN hopes to receive additional money from the vegetation mapping program, but at this time does not know what that amount will be allocated.

**VI. Budget Summary - FY 06 Work Plan**

FY06 Work Plan

**Network:** 26 Southern Plains**Category: 1\_Income**

<b>Description</b>	<b>\$ Amount</b>	<b>\$\$ Source</b>	<b>Where \$ Went</b>	<b>Comments</b>
Vital Signs	\$389,700.00	I&M - VS Monitoring		
Water Quality	\$29,000.00	WRD - WQ Monitoring		
NRPP - Small Park	\$20,000.00	Park or Regional \$\$		
To Be Determined	\$0.00	Veg. Mapping Program		
<b>Subtotal</b>	<b>\$438,700.00</b>			

**Category: 2\_Personnel**

<b>Description</b>	<b>\$ Amount</b>	<b>\$\$ Source</b>	<b>Where \$ Went</b>	<b>Comments</b>
Network Coordinator	\$85,000.00	I&M - VS Monitoring	NPS	
Data Manager	\$62,000.00	I&M - VS Monitoring	NPS	
Administrative - LYJO	\$11,000.00	I&M - VS Monitoring	NPS	
<b>Subtotal</b>	<b>\$158,000.00</b>			

**Category: 3\_Coop. Agreements**

<b>Description</b>	<b>\$ Amount</b>	<b>\$\$ Source</b>	<b>Where \$ Went</b>	<b>Comments</b>
Vegetation Mapping	\$40,000.00	I&M - VS Monitoring	University-CESU	
Colorado State Ph.D.	\$20,000.00	I&M - VS Monitoring	University-CESU	
SAND Rare Species	\$20,000.00	Park or Regional \$\$	University-CESU	
Texas A+M Interns	\$10,000.00	I&M - VS Monitoring	University-CESU	
Texas A+M M.S.	\$20,000.00	I&M - VS Monitoring	University-CESU	
Vital Signs Protocol Development	\$50,000.00	I&M - VS Monitoring	University-CESU	
Water Quality Protocol Development	\$21,000.00	WRD - WQ Monitoring	University-CESU	
Texas A+M Ph.D.	\$34,075.00	I&M - VS Monitoring	University-CESU	
<b>Subtotal</b>	<b>\$215,075.00</b>			

**Category: 4\_Contracts**

<b>Description</b>	<b>\$ Amount</b>	<b>\$\$ Source</b>	<b>Where \$ Went</b>	<b>Comments</b>
Miscellaneous Contracts (NPSpecies)	\$4,000.00	I&M - VS Monitoring	Other non-Federal	
Printing of SOPN Phase I Report	\$1,200.00	I&M - VS Monitoring	NPS	
Vital Signs Review and Assistance - A+M	\$1,000.00	I&M - VS Monitoring	University-CESU	
<b>Subtotal</b>	<b>\$6,200.00</b>			

**Category: 5\_Operations/Equipme**

<b>Description</b>	<b>\$ Amount</b>	<b>\$\$ Source</b>	<b>Where \$ Went</b>	<b>Comments</b>
Office Supplies	\$2,925.00	I&M - VS Monitoring	Other non-Federal	
Miscellaneous	\$1,500.00	I&M - VS Monitoring	Other non-Federal	
Uniform Allowance	\$1,000.00	I&M - VS Monitoring	Other non-Federal	
Vehicle	\$1,000.00	I&M - VS Monitoring	Other non-Federal	
<b>Subtotal</b>	<b>\$6,425.00</b>			

**Category: 6\_Travel**

<b>Description</b>	<b>\$ Amount</b>	<b>\$\$ Source</b>	<b>Where \$ Went</b>	<b>Comments</b>
Selection Workshop	\$10,000.00	I&M - VS Monitoring	Other non-Federal	
IMR I+M Communications Workshop	\$4,000.00	I&M - VS Monitoring	Other non-Federal	
Data Manager Training	\$2,000.00	I&M - VS Monitoring	Other non-Federal	
Network Coordinator Training	\$2,000.00	I&M - VS Monitoring	Other non-Federal	
SOPN Annual Meeting	\$8,000.00	WRD - WQ Monitoring	Other non-Federal	
I+M Annual Meeting	\$2,000.00	I&M - VS Monitoring		
Prioritization Workshop	\$25,000.00	I&M - VS Monitoring	Other non-Federal	
<b>Subtotal</b>	<b>\$53,000.00</b>			

## Budget Analysis

### Analysis of Expenses by Where \$ Went

<i>Funding Source</i>	<i>Total \$\$</i>	<i>NPS</i>	<i>USGS</i>	<i>Other Federal</i>	<i>Univ.-CESU</i>	<i>Univ_Non-CESU</i>	<i>Other non-Federal</i>
I&M - VS Monitoring	\$389,700	\$159,200			\$175,075		\$53,425
Park or Regional \$\$	\$20,000				\$20,000		
WRD - WQ Monitoring	\$29,000				\$21,000		\$8,000
<b>Totals</b>	<b>\$438,700</b>	<b>\$159,200</b>			<b>\$216,075</b>		<b>\$61,425</b>

### Analysis of Expenses by Category

<i>Funding Source</i>	<i>Total \$\$</i>	<i>Personnel</i>	<i>Coop Agree.</i>	<i>Contracts</i>	<i>Operations/Equip</i>	<i>Travel</i>	<i>Other</i>
I&M - VS Monitoring	\$389,700	\$158,000	\$174,075	\$6,200	\$6,425	\$45,000	
Park or Regional \$\$	\$20,000		\$20,000				
WRD - WQ Monitoring	\$29,000		\$21,000			\$8,000	
<b>Totals</b>	<b>\$438,700</b>	<b>\$158,000</b>	<b>\$215,075</b>	<b>\$6,200</b>	<b>\$6,425</b>	<b>\$53,000</b>	

### Expense Totals By Category

<i>Category</i>	<i>SubTotal</i>	<i>Percent</i>
2_Personnel	\$158,000	36.02%
3_Coop. Agreements	\$215,075	49.03%
4_Contracts	\$6,200	1.41%
5_Operations/Equipment	\$6,425	1.46%
6_Travel	\$53,000	12.08%
	<b>\$438,700</b>	